

XXX.—*On the Relation of the Spine-tailed Swift (Chætura caudacuta) to Weather Conditions in Victoria and Tasmania.*

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DURING a stay among the mountains of Northern Tasmania I used to notice that the Spine-tailed Swift usually appeared in connexion with an atmospheric disturbance; and observations since carried out both in Victoria and Tasmania appear to fully confirm my idea that this species finds something attractive in that part of a country where an alteration in the weather is either pending, has just taken place, or is actually in progress. It may be well to state, first, that this fine Swift comes down south from China and Japan, and, after spending the summer months with us, departs again for the north in the autumn. There is great variation in the numbers which annually visit us, for during some seasons scarcely any are seen, while during others, such as the summer recently past (which has, by the way, been a remarkably unsettled one), the Swifts are seen in such numbers as absolutely to force themselves upon our attention.

I have recorded a number of appearances, both during the summer of 1909-10 and that of 1910-11, and will now give these in sequence as they were written down.

During the summer first named, that of 1909-10, which was much more settled than that which has just left us, I was residing in the island State of Tasmania, and saw no Swifts at all until March 4th, 1910, when a solitary specimen was sighted; on the 8th of the same month a small party of the Spine-tails was seen near the beach at West Devonport, North-West Tasmania, where insects were plentiful in the warm humid atmosphere which prevailed after the heavy rains of the previous day and night. Before this, we had enjoyed a long spell of hot weather, during which none of the birds were observed; thus it will be noticed that as soon as a change in the atmosphere occurred the Swifts were quick to respond. Of this party at the coast, some swooped along near the ground, others high up; they often turned

obliquely to one side or the other when in flight, sometimes moving the wings, especially when rising to a higher elevation, but often making long sailing flights on motionless pinions, especially when on the downward curve. This Swift does not appear to make any call when in flight; it is a silent bird, except that the "swish" of the long curved wings may be heard when it is near.

On the same day, March 8th, a large party, probably of one hundred or more, came apparently from the north-west and went through graceful circlings and wheelings high up over the wooded hills to the south, where they could be well distinguished against the background of dark grey clouds. Presently another party arrived, apparently also from the north-west, and joined the main body, until the whole upper atmosphere seemed full of the graceful wheelings of these perfect aeronauts. The wind was at this time light from the north-west, but presently shifted to the south, and many of the Swifts came back before it to the beach, and swooped about after their insect prey at varying heights, many quite close to the ground. It should be mentioned that the storm of the previous day and night had been from the south-east, and had threatened us for three or four days before it broke.

The birds were seen on and off until March 12th, none occurring at Devonport after that date up to April 6th, when I left Tasmania for a time.

*Lakes Entrance, East Gippsland, Victoria (Australia).*

8th Dec. 1910.—A great company of Spine-tailed Swifts appeared this morning for the first time this summer, circling and wheeling at heights varying from just above the gum-trees to practically out of sight in the blue sky; they were first noticed shortly before 9 A.M. and appeared to come from east-north-east, as in the case of the great company of Wood-Swallows (*Artamus tenebrosus*) noted here on the 5th of Sept., 1910, and recorded in the 'Emu' for October 1910, which continued its migration to the west-south-west. On the occasion of this first appearance of the

Swifts the weather was fine and summer-like, and on the 10th and 11th of December more companies arrived, apparently from the same direction; some flew within a few yards of the ground, passing us with a great "swish" of their powerful wings. In a few days the weather changed from calm and summer-like to rough and windy, with heavy showers, while during the week following, *i. e.* Dec. 18th and onwards, we had terrific squalls from the westward. Towards the end of the same month of December two companies of this species were noted before and after stormy weather.

On January 6th, 1911, a party of the same Swifts was observed in the midst of a thunderstorm flying towards the north-east, the wind at the time being north-west.

On February 1st, 1911, while proceeding by launch up the Tambio River, East Gippsland, we noticed many of these Swifts flying backwards and forwards over the river, some at a low elevation; the day was sunny and extremely warm, with a light easterly breeze. Two days afterwards the sky became overcast and we had a gale from the eastward.

8th February.—Large numbers of the Spine-tails were seen high in the air, early in the morning, in fine weather. The next day broke fine, but rain came on during the morning and continued until noon, while on Feb. 10th heavy squalls of wind and rain passed over South-eastern Victoria.

#### *West Devonport, Tasmania.*

March 11th, 1911.—Numbers of the Swifts appeared on the 8th, 9th, and 10th of this month during disturbed thundery weather with rain, and during part of the time a high south-east wind. There were great floods again in Victoria and in parts of this island.

March 20th.—The birds again appeared yesterday, when there was rain almost the whole day. They passed in a leisurely way from west to east near the sea and at a considerable elevation.

March 23rd.—Swifts again seen coursing about; soon afterwards rough weather set in.

April 16th.—A perfect morning, with a cloudless sky and a light sea breeze. Spine-tailed Swifts passed over the shore-scrub at a low elevation, making somewhat to the west. I remarked to the friend with whom I was walking, "There are the Swifts, our fine weather will not last long." That very night great cumulus clouds appeared in the eastern sky, drifted gradually overhead, and brought a heavy downpour of rain.

April 15th.—On this day the Swifts were seen migrating, passing to the north-west over the beach, at a height of perhaps sixty or eighty feet; weather cold, showery, squally, wind veering north-west to south-west.

April 27th.—This afternoon the Swifts passed to the north-west in a long straggling party, over the beach and the sea, at a height of perhaps sixty feet; wind south-westerly, strong, cold. This was their last appearance, and the latest date at which I have ever seen them; I believe it constitutes a record for Tasmania, and probably for Australasia.

A reason may now be suggested for these appearances of the Swift in the time of disturbed weather, and it is this. The bird feeds largely upon ants in the winged state, and, indeed, I believe such to be its favourite article of food; the male and female ants having reached the winged state, frequently issue in vast numbers from their nests during those hot muggy days which precede a disturbance, while the so-called "white ants" or termites, very tasty morsels, will often "swarm" while a light warm rain is actually falling. It seems highly probable, therefore, that this Swift appears in numbers in the vicinity of a weather-disturbance because its favourite food is more plentiful and more easily obtained at such times. There may be other conditions of which at present we know nothing, affecting the sudden appearances and disappearances of this most interesting species, but the theory here advanced seems a reasonable one. I hope, however, that other observers of our migratory birds may be induced to give particular attention to the habits of this fine Swift.